

ABSTRACT OF THE DISCLOSURE

An electronically tunable quad-band antenna which includes a tunable high band antenna tuned by at least one tunable varactor associated therewith; the tunable high band antenna further includes a substrate, a patch element on said substrate, at least one voltage tunable varactor associated with the patch element, a DC bias point on the patch element, an RF input on the patch element, and a temperature sensor associated with the high band pass antenna. Also included in a preferred embodiment of the electronically tunable quad-band antenna of the present invention is a tunable low band antenna tuned by at least one tunable varactor associated therewith, the tunable low band antenna further including a substrate, a patch element on said substrate, at least one voltage tunable varactor associated with said patch element, a DC bias point on said patch element, an RF input on said patch element, and a temperature sensor associated with said low band pass antenna.

Also included is a controller receiving control data, and receiving output information from said low band antenna and output information from said high band antenna and controlling a first bias voltage for biasing the at least one voltage tunable varactor associated with the high band antenna and a second bias voltage for biasing the at least one voltage tunable varactor associated with the low band antenna. The bias voltages can be provided by a DC to DC converter regulator.